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Attorney Docket No. 5899*13

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J. Lynn Ferry

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Eggeling et al.

Group Art Unit: Not Assigned

Serial No.: 09/914,006

Examiner: Not Assigned

Filed: August 21, 2001

For: METHOD FOR MICROBIALLY
PRODUCING L-VALINETRANSMITTAL OF TRANSLATION OF PRIORITY DOCUMENT
UNDER MPEP 201.15Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith is a verified translation of applicants' priority application WO 00/50624.

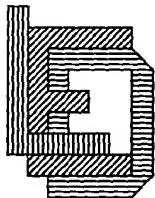
Applicants reiterate the claim of priority under 35 USC 119 and a prompt acknowledgment of receipt of the translation is requested.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

By

Helena C. Rychlicki
Registration No. 48,179
1220 Market Street
P.O. Box 2207
Wilmington, DE 19899
Tel: (302) 658-9141
Fax: (302) 658-5614



Leonardo and Elis Duvekot
Translators
Langstraat 38A
2242 KM Wassenaar
The Netherlands
Phone: (+31) 70 511-2999
Fax: (+31) 70 511-2870
e-mail: LEDTRANS@CS.COM

Re: WO 00/50624 PCT/EP00/01405

"Process for the microbial production of L-valine"

I, Elise Duvekot, hereby certify that I am fully familiar with the German and English languages and that I am capable of translating from German into English. To the best of my knowledge and belief, the foregoing is an accurate and complete translation of the copy before me in the German language. In witness whereof I sign,

Elise Duvekot September 27, 2001
(Elise Duvekot, Translator)

Figure 1

[For the figure, please refer to the German original]

Figure 2

[*For the figure, please refer to the German original!*]

Figure 3

[For the figure, please refer to the German original]

SEQUENCE PROTOCOL

(1) GENERAL INFORMATION

- (i) APPLICANT:
- (A) NAME: Forschungszentrum Juelich GM GmbH
 - (B) STREET: P.O. Box 1913
 - (C) CITY: Juelich
 - (E) COUNTRY: Germany
 - (F) POSTAL CODE: 52425
 - (G) PHONE NO.: (+49) 2461-614480
 - (H) FAX NO.: (+49) 2461-612860

- (ii) DESIGNATION OF THE INVENTION
Valine production

- (iii) NUMBER OF SEQUENCES: 5

- (iv) COMPUTER-READABLE VERSION:
- (A) DATA CARRIER: floppy disk
 - (B) COMPUTER: IBM compatible PC
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release # 1.0, version # 1.30 (EPA)

(2) INFORMATION PERTAINING TO SEQ. ID. NO. 1:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2952 base pairs
 - (B) TYPE: nucleotide
 - (C) STRAND FORM: single strand
 - (D) TOPOLOGY: linear

- (ii) TYPE OF MOLECULE: genome DNA

- (iii) HYPOTHETICAL: NO

- (iv) ANTISENSE: NO

- (xi) SEQUENCE DESCRIPTION: SEQ. ID. NO. 1:

[For the sequence, please refer to the German original]

(2) INFORMATION PERTAINING TO SEQ. ID. NO. 2:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 612 amino acids
 - (B) TYPE: amino acid
 - (C) STRAND FORM: single strand
 - (D) TOPOLOGY: linear

- (ii) TYPE OF MOLECULE: protein

- (iii) HYPOTHETICAL: NO

(iv) ANTISENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ. ID. NO. 2:

[For the sequence, please refer to the German original]

(2) INFORMATION PERTAINING TO SEQ. ID. NO. 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2164 base pairs
- (B) TYPE: nucleotide
- (C) STRAND FORM: single strand
- (D) TOPOLOGY: linear

(ii) TYPE OF MOLECULE: genome DNA

(iii) HYPOTHETICAL: NO

(iv) ANTISENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ. ID. NO. 3:

[For the sequence, please refer to the German original]

(2) INFORMATION PERTAINING TO SEQ. ID. NO. 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 271 amino acids
- (B) TYPE: amino acid
- (C) STRAND FORM: single strand
- (D) TOPOLOGY: linear

(ii) TYPE OF MOLECULE: protein

(iii) HYPOTHETICAL: NO

(iv) ANTISENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ. ID. NO. 4:

[For the sequence, please refer to the German original]

(2) INFORMATION PERTAINING TO SEQ. ID. NO. 5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 279 amino acids
- (B) TYPE: amino acid
- (C) STRAND FORM: single strand
- (D) TOPOLOGY: linear

- (ii) TYPE OF MOLECULE: protein
- (iii) HYPOTHETICAL: NO
- (iv) ANTISENSE: NO
- (xi) SEQUENCE DESCRIPTION: SEQ. ID. NO. 5:

[For the sequence, please refer to the German original]

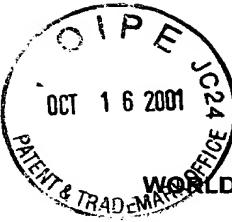
Translation by: Duvekot Translators
Langstraat 38A
2242 KM Wassenaar
The Netherlands
Phone: (+31) 70 - 511-2999
Fax: (+31) 70 - 511-2870
e-mail: LEDTRANS@CS.COM



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TRANSLATION

PCT



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INTERNATIONAL OFFICE

INTERNATIONAL APPLICATION PUBLISHED IN ACCORDANCE WITH THE PATENT COOPERATION TREATY (PCT)



| | | |
|---|----|--|
| [51] International Patent Classification ⁷ : C12P 13/06, C12N 1/21 | A1 | [11] International Publication Number: WO 00/50624 [43] International Date of Publication of the Application: August 31, 2000 |
| [21] International Application Number: PCT/EP00/01405 | | [74] Representative: PIELKEN, Petra Becker-Gundahl-Strasse 36 D-81479 Munich Germany (DE) |
| [22] International Date of Filing: February 21, 2000 | | |
| [30] Priority dates: 199 07 567.0 February 22, 1999 (DE) | | |
| [71] Applicant (<i>for all Contracting States, except for the United States</i>): FORSCHUNGSZENTRUM JÜLICH GMBH [DE/DE]; Postfach (P.O. Box) 1913 D-52425 Jülich, Germany (DE) | | [81] Contracting States: CZ, JP, KR, SK, US, ZA, European Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE) |
| [72] Inventors; and [75] Inventors/applicants (<i>only for the United States</i>): EGGELING, Lothar [DE/DE] Elsenkamp 6 D-52428 Jülich, Germany (DE) SAHM, Hermann [DE/DE] Wendelinusstrasse 71 D-52428 Jülich, Germany (DE) | | Published <i>With an international search report.</i> |
| [54] Title: Process for the microbial production of L-valine. | | |
| [57] Abstract: The present invention relates to a process for the microbial production of L-valine in which the dihydroxy acid-synthase (ilvD) activity and/or the ilvD gene expression is intensified in a microorganism. As an alternative or in combination with this, the acetohydroxy acid-synthase (ilvBN) activity and isomeroreductase (ilvC) activity and/or the ilvBNC gene expression are intensified in a microorganism. The process according to the invention preferably makes use of microorganisms in which the activity of at least one enzyme that is involved in a metabolic pathway that reduces the formation of L-valine is weakened or eliminated. Thus, for instance, the process according to the invention preferably makes use of microorganisms having a defect mutation in the threonine dehydratase (ilvA) gene and/or a defect mutation in one or more genes of the pantothenate synthesis. | | |

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